AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-17. (Cancelled).

18. (Currently Amended) A method for segmenting an input video sequence, said input video sequence comprising a plurality of frames, ~~said plurality of frames being grouped into a plurality of video shots,~~ said method comprising:

grouping said plurality of frames into a plurality of video shots, wherein grouping is determined using a minimum time for frame inclusion, a maximum time for frame exclusion and a range of time from the minimum time to the maximum time, for which further analysis is performed;

[(a)] computing a similarity between each of said plurality of frames and a frame preceding said each of said plurality of frames in time;

[(b)] segmenting said input video sequence into said plurality of video shots according to said computed similarity.

19. (Original) The method of claim 18, wherein said similarity is calculated using a refined feature space representation of said input video sequence.

20. (Original) The method of claim 19, wherein said refined feature space representation is created using a singular value decomposition of said input video sequence.

21. (Original) The method of claim 20, wherein said singular value decomposition is performed using frames selected with a fixed interval from said input video sequence.

22. (Original) The method of claim 21, wherein said selected frames are arranged into a feature frame matrix, and wherein said singular value decomposition is performed on said feature frame matrix.

23. (Original) The method of claim 22, wherein said performed singular value decomposition produces a matrix, each column of said produced matrix comprising a frame in said refined feature space representing a frame in said input video sequence.

24. (Currently Amended) The method of claim 18, further comprising ([c]d) extracting features from each of said plurality of video shots.

25. (Withdrawn) A method for determining a similarity between a first and a second frame in an input video sequence, said method comprising:

(a) calculating a refined feature space representation of said input video sequence;

(b) using said calculated representation to compute said similarity between said first and said second frames.

26. (Withdrawn) The method of claim 25, wherein in said (a) said refined feature space representation is calculated using a singular value decomposition.

27. (Currently Amended) The method of claim 18, wherein in said [(b)] said computed similarity is compared to at least a first threshold similarity and a second threshold similarity, and said input video sequence is segmented according to a result of said comparison.

28. (Currently Amended) The method of claim 18, wherein if in said [(b)] said computed similarity is below a first threshold similarity, said each of said plurality of frames is put into a one of said plurality of video shots containing a precedent in time frame.

29. (Currently Amended) The method of claim 18, wherein if in said [(b)] said computed similarity is above a second threshold similarity, said each of said plurality of frames is designated as a shot boundary.

30. (Currently Amended) The method of claim 18, wherein if in said [(b)] said computed similarity is between a first threshold similarity and a second threshold similarity, said each of said plurality of frames is put into a one of said plurality of video shots according to a further analysis performed using additional frames from said plurality of frames.

31-47. (Cancelled).

48. (Currently Amended) A computer-readable medium containing a program for segmenting an input video sequence, said input video sequence comprising a plurality of frames, ~~said plurality of frames being grouped into a plurality of video shots,~~ said program comprising:

grouping said plurality of frames into a plurality of video shots, wherein grouping is determined using a minimum time for frame inclusion, a maximum time for frame exclusion and a range of time from the minimum time to the maximum time, for which further analysis is performed;

[(a)] computing a similarity between each of said plurality of frames and a subsequent in time frame;

[(b)] segmenting said input video sequence into a plurality of shots according to said computed similarity.

49. (Previously Presented) The computer-readable medium of claim 48, wherein said similarity is calculated using a refined feature space representation of said input video sequence.

50. (Previously Presented) The computer-readable medium of claim 49, wherein said refined feature space representation is created using a singular value decomposition of said input video sequence.

51. (Previously Presented) The computer-readable medium of claim 50, wherein said singular value decomposition is performed using frames selected with a fixed interval from said input video sequence.

52. (Previously Presented) The computer-readable medium of claim 51, wherein said selected frames are arranged into a feature frame matrix, and wherein said singular value decomposition is performed on said feature frame matrix.

53. (Previously Presented) The computer-readable medium of claim 52, wherein said performed singular value decomposition produces a matrix, each column of said produced matrix comprising a frame in said refined feature space representing a frame in said input video sequence.

54. (Currently Amended) The computer-readable medium of claim 48, wherein said program further comprises [(c)] extracting features from each of said plurality of video shots.

55. (Withdrawn) A computer-readable medium containing a program for determining a similarity between a first and a second frames in an input video sequence, said program comprising:

(a) calculating a refined feature space representation of said input video sequence; and

(b) using said calculated representation to compute said similarity between said first and said second frames.

56. (Withdrawn) The computer-readable medium of claim 25, wherein in said (a) said refined feature space representation is calculated using a singular value decomposition.

57. (Currently Amended) The computer-readable medium of claim 48, wherein in ~~said~~ [(b)] said computed similarity is compared to at least two threshold similarities, and said input video sequence is segmented according to a result of said comparison.

58. (Currently Amended) The computer-readable medium of claim 48, wherein if in ~~said~~ [(b)] said computed similarity is below a first threshold similarity, said each of said plurality of frames is put into a one of said plurality of video shots containing a precedent in time frame.

59. (Currently Amended) The computer-readable medium of claim 48, wherein if in ~~said~~ [(b)] said computed similarity is above a second threshold similarity, said each of said plurality of frames is designated as a shot boundary.

60. (Currently Amended) The computer-readable medium of claim 48, wherein if in ~~said~~ [(b)] said computed similarity is between a first threshold similarity and a second threshold similarity, said each of said plurality of frames is put into a one of said plurality of video shots according to a further analysis performed using additional frames from said plurality of frames.

61. (Currently Amended) The method of claim 18, further comprising [(c)] extracting features from each of said plurality of video shots and using said extracted features to index said plurality of video shots.

62. (Original) The method of claim 61, wherein said extracted features are features of a video frame representative of said each of said plurality of video shots.

63. (Original) The computer-readable medium of claim 48, wherein said program further comprises (c) extracting features from each of said plurality of video shots and using said extracted features to index said plurality of video shots.

64. (Previously Presented) The computer-readable medium of claim 63, wherein said extracted features are features of a video frame representative of said each of said plurality of video shots.

65. (Withdrawn) A method of calculating a degree of visual changes in a video shot, said video shot comprising a plurality of frames, said method comprising:

(a) performing a singular value decomposition on said plurality of frames, wherein said singular value decomposition produces a matrix, each column of said matrix representing a frame in a refined feature space corresponding to a frame in said plurality of frames;

(b) using said matrix to calculate said degree of visual changes in said video shot.

66. (Withdrawn) The method of claim 65, wherein said (b) comprises calculating said degree of visual changes in said video shot as a sum $\sqrt{\sum_{j=1}^{rank(A)} V_{ij}^2}$, wherein v_{ij} are elements of said matrix.

67. (Withdrawn) A computer-readable medium containing a program for calculating a degree of visual changes in a video shot, said video shot comprising a plurality of frames, said program comprising:

(a) performing a singular value decomposition on said plurality of frames, wherein said singular value decomposition produces a matrix, each column of said matrix representing a frame in a refined feature space corresponding to a frame in said plurality of frames;

(b) using said matrix to calculate said degree of visual changes in said video shot.

68. (Withdrawn) The computer-readable medium of claim 67, wherein said (b) comprises calculating said degree of visual changes in said video shot as a sum $\sqrt{\sum_{j=1}^{rank(A)} V_{ij}^2}$, wherein v_{ij} are elements of said matrix.

69. (Withdrawn) A method of calculating an evenness of color distributions in a video shot, said video shot comprising a plurality of frames, said method comprising:

(a) performing a singular value decomposition on said plurality of frames, wherein said singular value decomposition produces a matrix, each column of said matrix representing a frame in a refined feature space corresponding to a frame in said plurality of frames;

(b) using said matrix to calculate said evenness of color distribution in said video shot.

70. (Withdrawn) The method of claim 69, wherein said (b) comprises calculating said evenness of color distribution in said video shot as a sum $\sqrt{\sum_{j=1}^{rank(A)} \sigma_j^2 \, v_{ij}^2}$, wherein said v_{ij} are elements of said matrix and said σ_j are singular values obtained in said singular value decomposition.

71. (Withdrawn) A computer-readable medium containing a program for calculating an evenness of color distributions in a video shot, said video shot comprising a plurality of frames, said method comprising:

(a) performing a singular value decomposition on said plurality of frames, wherein said singular value decomposition produces a matrix, each column of said matrix representing a frame in a refined feature space corresponding to a frame in said plurality of frames;

(b) using said matrix to calculate said evenness of color distribution in said video shot.

72. (Withdrawn) The computer readable medium of claim 71, wherein said (b) comprises calculating said evenness of color distribution in said video shot as a sum $\sqrt{\sum_{j=1}^{rank(A)} \sigma_j^2 \, V_{ij}^2}$, wherein said v_{ij} are elements of said matrix and said σ_j are singular values obtained in said singular value decomposition.